



Why Do We Need a Pediatric HIV Vaccine?

Efforts to prevent mother-to-child transmission have dramatically reduced new cases of HIV infection in children in high-income countries. However, only 48 percent of HIV-positive pregnant women in low- and middle-income countries receive the medicines they need to prevent transmission of HIV to their infants. In 2010, approximately 390,000 children contracted HIV—most as a result of mother-to-child transmission during pregnancy, childbirth, or breastfeeding (WHO, 2011). While working to reach more women with interventions like antiretroviral medicines, which can prevent mother-to-child HIV transmission, we must continue to investigate novel strategies to protect infants and children from HIV infection, including through the development of a preventive vaccine.

Why a vaccine?

The optimal way to halt the spread of HIV is through development of a vaccine that will protect all individuals from infection, including infants and children. Vaccines have reduced many common childhood infections by up to 99 percent in high-income countries and are one of the most effective public health interventions currently available. A vaccine that could be given to infants would protect those born to HIV-positive mothers against HIV infection during breastfeeding as well as set the stage for lifetime immunity for all infants, creating the first generation protected from and free of HIV.

Why a pediatric vaccine?

Once a vaccine candidate is identified and its safety in adults is established, it is critical that it be evaluated for use in infants and children. HIV-exposed breastfeeding infants are a highly vulnerable population that could immediately benefit from the immunity that an effective vaccine would confer. For this reason, it is particularly important that pediatric vaccine trials be conducted in settings with high rates of mother-to-child HIV transmission so that children in these settings can be among the first to benefit and so the vaccine's efficacy can be quickly established. These benefits make investments in HIV vaccine research and trials geared toward infants and children in high-HIV-prevalence settings essential.

What are the challenges to developing a pediatric vaccine?

Despite the potential benefits, children have been largely excluded from HIV vaccine research. Of the more than 190 HIV vaccine trials that have been completed to date, less than two percent have included children. This sobering statistic reflects a reluctance to test vaccine candidates in infants and young children without first demonstrating the vaccine's potential efficacy in adults. Continuing to test vaccine candidates in adults alone will make it impossible to establish their potential efficacy in infants and children, a population that deserves to benefit from a successful vaccine.

What is the Foundation doing to further pediatric vaccine research?

HIV/AIDS research has been a key priority for the Foundation since its inception more than 20 years ago. To date, the Foundation has provided \$12.5 million to support 52 separate studies related to pediatric vaccine research. In May 2007, the Foundation received a \$10 million award from the Bill & Melinda Gates Foundation to support a new Pediatric HIV Vaccine Program, which is among the first of its kind to support basic research and clinical trials specific to breastfeeding infants. Ongoing areas of research include

- The study of breast milk transmission of HIV;
- The study of pediatric immune response to HIV;
- Identification of potential HIV vaccines for pediatric populations; and
- Identification of obstacles to the conducting of clinical trials in infants.

As these promising research efforts advance, the Foundation is also working to educate the U.S. Congress and the Obama administration about the importance of HIV vaccine research as a critical preventive strategy in the global HIV/AIDS response, and the necessity to ensure that the special needs of children are not overlooked in the quest for an effective HIV vaccine. The Foundation continues to support Elizabeth Glaser's mission of advocacy on behalf of children living with HIV in the United States and around the world by urging significant investments in HIV/AIDS research, including the development of a pediatric HIV vaccine.

To find out more about the Foundation's work to support the development of a pediatric vaccine and to eliminate pediatric AIDS, visit www.pedaids.org.

Elizabeth Glaser acquired HIV through a blood transfusion and unknowingly passed the virus on to her daughter, Ariel, and her son, Jake. Following Ariel's death in 1988, Elizabeth joined with two close friends with one goal: to bring hope to children with AIDS. The Foundation that now bears Elizabeth Glaser's name has become a global leader in the effort to eliminate pediatric AIDS, working in 16 countries and at more than 5,900 sites around the world to prevent the transmission of HIV to children and help those already infected with the virus. The Foundation's global mission is to implement prevention, care, and treatment; further advance innovative research; and give those affected by HIV and AIDS a voice to bring dramatic change to the lives of millions of children, women, and families worldwide.